Comparative European Practice – Lessons From Germany

Seminar: Rethinking Transport Appraisal - Critically Examining the Current Approaches
1 June, UCL

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Content

• Background on transport planning in Germany
  • Planning levels
  • Federal infrastructure planning (FTIP)

• Proposed FTIP 2015 appraisal methodology
  • Elements and structure
  • Components of cost-benefit analysis
  • Non-monetary elements
  • Prioritisation procedure

• Conclusions
Transport Planning Institutions Germany (Road)

- tiered responsibilities
- follows principles of subsidiarity + cooperative federalism

Source: Grandjot, 2002, translated
# Standardised Economic Appraisal Methods

<table>
<thead>
<tr>
<th>Infrastructure Level</th>
<th>Appraisal Method</th>
<th>Latest Version</th>
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<tbody>
<tr>
<td>Federal roads, railways and inland waterways</td>
<td>Economic appraisal method for the federal infrastructure plan (FTIP)</td>
<td>2003 (review 2010), 2015 draft available</td>
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<td>Regional and local public transport investments</td>
<td>Standardised appraisal method for regional and local public transport investments (“Standardisierte Bewertung von Verkehrswegeninvestitionen des öffentlichen Personennahverkehrs”, short Standardisierte Bewertung)</td>
<td>2006 (refresh under development)</td>
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Federal Transport Infrastructure Plan

- **Aim**: Identification of need for and prioritisation of transport project investments
  (Identification whether there is a need for a project, not how to realize it)
- **Multi-modal**: road, rail, inland waterways
- **Legal position**: Government programme in preparation for statutory planning acts (upgrading and budget)
Planning process for federal transport infrastructure in Germany

Source: BMVI website (May 2015)
Federal Transport Infrastructure Plan (FTIP)

- **Timing:**
  - about every 5 years till 1992 (delayed due to unification), then gap till government change, latest: 2003, reviewed 2010; next planned 2015;
  - 4+ year planning process,

- **Volume 2003:**
  - 150 bn. €; ~1800 projects evaluated;

- **Project proposals:**
  - Suggested by federal states, inland waterway agency, DB Netz AG (railway infrastructure company), business organisations, NGOs, citizens;
  - 1864 road, 428 rail, 46 waterway project applications for 2015
Planning Process and Public Participation FTIP 2015

Concept Phase
- Draft Basic Concept
- Draft Appraisal Methodology

Forecasting Phase
- Scenario Definition
- Forecast Results

Appraisal Phase
- Project Proposals

Ministerial Draft Plan
- Ministerial Draft Plan
- Cabinet Decision

Participation
- Participation Basis
- Associations
- Citizens

Source Graph: BMVI website (May 2015); Translated by Author
Procedure FTIP 2015

Application, network and project appraisal

Calculation of "with" scenario and project evaluation
- Cost-benefit analysis
- Environmental assessment
- Spatial planning
- Urban development

Overall plan and environmental report
incl. strategic environmental assessment (SEA)

2030 traffic forecast
2030 maintenance requirement forecast

Public participation
Quality assurance

Source: BMVI website (May 2015)
Fundamental Changes 2003 -> 2015

- Transport modelling / forecasts:
  - Improved interfaces between demand, modal split and assignment models, in particular feedback from assignment to demand forecast
  - Inclusion of an independent co-ordinator (Prof. Christoph Walther, PTV and University of Weimar) to ensure the consistency between different methodological elements.

- Economic Appraisal ‘philosophy’
  - From ‘resource consumption’ (with fixed demand) to consumer surplus as welfare measure
  - Calculation of ‘implicit user benefits’ difference to adjust to rule-of-the-half (for technical reasons)
Selection of updated CBA Elements 2015

- **Infrastructure construction and maintenance costs**
  - Risk premium / sensitivity tests

- **User benefits** (explicit and ‘implicit’)
  - Alternative to Rule-of-Half method (due to modelling constraints)
  - Updated values of time savings, distance + purpose dependent
  - Capital and logistics costs for freight included
  - Sensitivity tests for influence of small time savings

- **Traffic safety**
  - Human suffering now included besides production losses from paid and unpaid labour

- **Environmental impacts**
  - Life cycle emissions included, updated values for air pollution
  - Impact pathway approach urban noise, avoidance costs non-urban sensitive areas

- **Transport reliability**
  - New element based on feasibility study, relation standard deviation to travel time
Environmental Appraisal Elements

- Plausibility check on application
- Environmental assessment for projects, incl. results from CBA
- Environmental report for full FTIP (SEA)
Project Dossier Environment

- summarises results
- published after appraisal

Summary & CBA results

Source: Bosch & Partner, 2014
1. Spatial deficit analysis (DA) according to criteria:
   - Connectivity between regions and central places (passenger + freight)
   - Regional accessibility

2. Regional development potential (RO)

Regional impact points:

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<th>Wertungspunkte „Defizitanalyse“ (DA)</th>
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Added up for projects if significant positive impacts to be expected.
Urban Development Appraisal

- For links with expected traffic change > 10%
- Criteria to assess urban development potential
  - Improvement to road environment (potential for re-use)
  - Accessibility + urban development potential
  - Restoration potential
- Summarised on six point scale
Prioritisation for FTIP 2015

1. Specification of maintenance and renewal needs

2. Strategic prioritisation between modes based on total network impacts

3. Priority ranking of projects within modes based on appraisal results

Source: Haßheider, 2014
Classification

Haßheider, 2014
Conclusions Strengths and Weaknesses

• Strong public involvement and necessity of institutional co-operation can iron out worst mistakes
• Application and sifting process improved, but still too many ‘wish lists’
• Network concept exists for rail but not road, project interdependencies included
• Scenario development and transport forecasting more realistic
  • but probably still overly optimistic, favours large projects over small, quick solutions and
  • not transparent (carried out by consultants)
• Proposed economic appraisal methodology for FTIP 2015 largely consistent with international practice, some areas for research identified
• Formalised incorporation of non-monetary elements but still dominance of user benefits
Lessons for the UK / England for discussion

• Localism & devolution agenda
  • Option generation and project prioritisation, avoidance of ‘wish lists’ or pork-barrel politics (e.g. US)
  • Strategic decision on (regional) priorities, compliance with national

• CBA and non-monetary criteria
  • should more impacts be included in CBA
  • or should a more formalised method of aggregation be chosen?

• Necessity for a strategic transport network concept?

• Stronger public involvement feasible?

• Is movement to GVA priority a step backwards?